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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Zongquan Wu

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39905

7590

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EXAMINER

VANATTA, AMY B

ART UNIT

PAPER NUMBER

3765

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01/29/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/605,979	<b>Applicant(s)</b> WU ET AL.	
	<b>Examiner</b> Amy B. Vanatta	<b>Art Unit</b> 3765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2008 and 24 March 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-15, 35 and 36 is/are allowed.
- 6) ☒ Claim(s) 16-34 and 37-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The term “nonwoven”, as recited in claims 16, 20, 23, and 32 does not have antecedent basis in the specification. This term does not appear in the specification, and a nonwoven layer or nonwoven glove, as the term “nonwoven” is used in the art (see below) is not described in the specification.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 16-34 and 37-42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 16-34 and 37-42, the specification does not disclose a nonwoven layer or a nonwoven glove. The term “nonwoven”, as recited in claims 16, 20, 23, and 32 constitutes new matter. It is noted that the term “nonwoven” has a

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customary meaning in the art. According to MPEP 2111.01, "the ordinary and customary meaning of a claim term is the meaning that the term would have *to a person of ordinary skill in the art* in question at the time of the invention". A "nonwoven" is a type of textile or web having structural integrity imparted by continuous or discontinuous strands or fibers held together in random or ordered array by mechanical interlocking (e.g., as a consequence of needling or hydroentangling, etc.) or bonding. Applicant does not disclose the use of such a layer in the present specification.

It appears that applicant does not intend to claim a "nonwoven" layer under the traditional definition of "nonwoven", but rather applicant is attempting to recite that the layer is not woven, in order to define over the prior art, which discloses a woven layer. This intention is unclear from the claims, however, which appear to recite a "nonwoven" layer under the customary meaning of "nonwoven" in the art. It is suggested that applicant amend the claims to more clearly define the structure of the layer which is not woven, or is of a structure other than "woven", so as to define over the prior art while not reciting a "nonwoven" per se, which is a distinct and different structure than that which is provided in applicant's invention.

Regarding claims 23-34 and 39-42, the specification does not disclose a two layered polymeric film, as recited in claim 23, or an article formed from a polymeric film having only two layers, as recited in claim 32. Claims 23 and 32 have been amended to recite a film "consisting essentially of" a polymeric layer including chopped fibers therein and a nonwoven polymer layer devoid of chopped fibers. The transitional phrase "*consistent essentially of*" limits the structure to only these two layers. The amendment

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was made in order to overcome the prior art, which disclosed three layers. Such a two layered film or article is not disclosed in the specification, however, and constitutes new matter. The specification discloses a glove having at least three layers (e.g. col. 2, line 14), a glove which is “multi-layered” (e.g. col. 2, line 64), a glove which includes “*at least* two layers” (col. 3, lines 42-44), and a single layered glove (col. 10, lines 49-50).

Nowhere does the specification disclose a glove limited to having *only* two layers. The specification also does not disclose a polymeric film having only two layers as claimed, or an article made of a polymeric film having only two layers.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 23, 25, 32, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Ozaki et al (US 4,315,964).

Ozaki et al disclose a polymeric film (see Fig. 1 or 3) consisting of a polymeric layer (10 or 30) and a nonwoven polymeric layer (12 or 32) as claimed (see Figs. 1 and 3 and col. 2, lines 49-53 and 57-60). The polymeric layer (10 or 30) includes chopped fibers randomly dispersed therein (col. 5, lines 40-51, in particular line 46). Also see col. 8, lines 36-54; it is noted that the thickness of the composite is 0.8 mm (col. 8, line 46), which forms a “polymeric film” as in the preamble of claim 23. The nonwoven

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polymeric layer is a polyvinyl fluoride film which is devoid of chopped fibers (col. 2, lines 64-65). The fibers are glass fibers (col. 5, lines 40-46), as in claims 25 and 34. The laminate ("polymeric film") is made into articles (e.g. panels; see col. 8, line 4), thus forming an article formed from the claimed polymeric film as in claim 32. The laminate has increased cut resistance since Ozaki discloses that the laminate of the invention resists scraping and rupturing to a greater extent than the prior art (col. 1, lines 21-28). Also, the chopped glass fibers provide "increased cut resistance" compared to the same laminate which lacks the glass fibers. The laminate has "cut and puncture resistance throughout" due to the glass fibers.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 23-27, 30-34, and 39-42 rejected under 35 U.S.C. 103(a) as being unpatentable over Eichhorn et al (US 4,596,736).

Eichhorn et al disclose a fiber reinforced resinous sheet which is thin and forms a "polymer film" to the extent claimed in claims 23 and 32. The sheet comprises a polymeric layer having chopped fibers randomly dispersed therein (see one of the outer layers disclosed in col. 3, line 61- col. 4, line 25; see Examples in cols. 7-8; and see in particular col. 7, line 50-52 and col. 11, line 46-7 disclosing the use of chopped fibers).

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The sheet also comprises a polymeric layer (see intermediate layer disclosed in col. 3, lines 8-9) substantially devoid of chopped fibers. This layer is not woven and thus meets the limitation of being “nonwoven” to the extent the meaning of this limitation is understood as claimed. Eichhorn discloses that articles are made of this reinforced resin sheet (col. 7, lines 40-42), as in the preamble of claim 32.

Eichhorn does not disclose only two layers, as required by the phrase “consisting essentially of” in claims 23 and 32, i.e. only a polymeric layer including chopped fibers and a nonwoven polymeric layer devoid of chopped fibers. Rather, Eichhorn discloses a second polymeric layer including chopped fibers. Applicant’s specification fails to disclose any criticality as to this two layered structure, however, and it appears that the invention would perform equally well with more or less than two layers. In fact, applicant’s specification discloses that one layer may be used and that three layers is preferred. No advantage or criticality is disclosed as the use of specifically only two layers. To this extent, it appears that it is within the routine skill in the art to select the exact number of layers. One having routine skill in the art would recognize that the sheet of Eichhorn could be formed with only two layers, omitting one of the chopped fiber polymeric layers, in order to save on production costs when a reinforced layer is only required on one side. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the sheet of Eichhorn with only two layers rather than three, since it is within the routine skill in the art to omit one of the outer layers in order to save on production costs, when the particular end use would require a reinforced layer on only one side. Furthermore, in

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the absence of the disclosure of any criticality as to the number of layers, it appears to be within the routine skill in the art to select the number of layers to be provided in such a film laminate.

Eichhorn discloses that the fibers are glass or aramid (col. 4, lines 13-25) as claimed. The fibers are disclosed as having a length of 3/16 inches (see examples in cols. 7-8), which is about 4.762 mm, which falls within the claimed range recited in claim 31.

Eichhorn teaches that the glass fiber is used for reinforcement of the polymer and provides high strength (see, e.g., col. 1, lines 11-13; col. 2, lines 10-12; col. 7, lines 40-42; and see properties shown in the Tables for examples described in cols. 7-8). It is the examiner's position that the glass fibers disclosed by Eichhorn provide sufficient reinforcement and strength such that they provide resistance to cuts and punctures, as recited in claims 23 and 32.

Eichhorn does not disclose that the polymer of the polymeric layer having the chopped fibers is one of those recited in claim 24 or 33. Such polymers are well known in the art, however, and are conventionally used for polymer layers. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use one of the polymers recited in claim 33 for the polymeric layer of Eichhorn, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125.



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Regarding claims 39 and 40, see col. 8, lines 44-47 disclosing an example in which the fiber containing polymeric layer comprises 30% by weight fibers (thus comprising 70% by weight of polymer).

Regarding claims 41 and 42, see col. 8, lines 33-36 or col. 8, lines 44-47 disclosing examples in which the fiber containing polymeric layer comprises 30% by weight fibers (thus comprising 70% by weight of polymer).

Eichhorn discloses various materials which may be used for the reinforcing fibers (col. 4, lines 13-25), however the particle filled polymeric fibers as recited in claim 26 are not disclosed. Such a fiber material is known to be used for reinforcement, however, and applicant fails to disclose any criticality as to the material selected for the chopped fibers. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use particle filled polymeric fibers as the chopped fibers in the polymeric layer of Eichhorn, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125.

Regarding claim 27, Eichhorn does not disclose the value of the increase in cut resistance (or strength) which is provided by the fibers. The value of the increase in cut resistance is dependent upon the types of fiber and polymer selected and the weight percent of each which is used. One having routine skill in the art would recognize that the fibers and polymers and the ratios thereof may be varied and chosen according to the strength and reinforcement level desired. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the materials and

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ratios thereof for the sheet of Eichhorn such that the sheet is provided with a cut resistance which is increased by at least 20 percent, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

As to claim 30, Eichhorn does not disclose the denier of the chopped fibers, however one of routine skill in the art would recognize that the fiber denier should be chosen as appropriate for the desired strength and thickness of the sheet. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use fibers having a denier in the range of about 1 to about 10, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

### ***Response to Arguments***

8. Applicant's arguments filed 1/22/08 have been fully considered but they are not persuasive, to the extent discussed below.

As to the rejection of claims 16-34 and 37-42 under 35 U.S.C. 112, first paragraph, applicant points out that the American Heritage Dictionary defines nonwoven as something "made by a process not involving weaving" or is a "material or a fabric made by a process not involving weaving". Although this may be a basic laymen's definition of the term, the term "nonwoven" has a customary meaning *in the textile art*. According to MPEP 2111.01, "the ordinary and customary meaning of a claim term is

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the meaning that the term would have *to a person of ordinary skill in the art* in question at the time of the invention". A person of ordinary skill in the art would be aware of the art specific meaning of the term "nonwoven". As noted above, in the art, a "nonwoven" is a type of textile or web having structural integrity imparted by continuous or discontinuous strands or fibers held together in random or ordered array by mechanical interlocking (e.g., as a consequence of needling or hydroentangling, etc.) or bonding.

Applicant does not disclose the use of such a layer in the present specification.

Applicant also argues that this art specific definition of the term "nonwoven", as provided by the examiner, is supported in the specification. The examiner disagrees. The portions of the specification which applicant refers to do not disclose a nonwoven layer or a nonwoven glove. The specification discloses a cut resistant layer which has fibers randomly dispersed therein, this layer being an elastomeric matrix. This layer is formed by dipping a mold into the elastomeric solution containing the fibers. This does not constitute a "nonwoven layer". The specification also discloses other layers, such as two outer elastomeric (or polymeric) layers, which are formed by dipping a mold into a polymeric solution (col. 7, line 57- col. 8, line 10), or are formed by melt extrusion, calendaring, or injection molding (col. 2, lines 55-56). The specification also discloses that heat sealing or blow molding could be used to form the gloves (col. 6, lines 25-26). Thus, a reading of the entire disclosure will reveal that a "nonwoven" layer per the meaning of the term in the art is not disclosed. The glove or article is made of multiple elastomeric (polymeric layers), with at least one layer having chopped fibers dispersed therein. A "nonwoven" layer, i.e. a textile or web having structural integrity imparted by

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continuous or discontinuous strands or fibers held together in random or ordered array by mechanical interlocking (e.g., as a consequence of needling or hydroentangling, etc.) or bonding, is not disclosed in the specification.

Regarding Eichhorn, applicant argues that the three layered film of Eichhorn would result in an impermissible modification of the novel and inventive characteristics of the film recited in amended claims 23 and 32, which require a two layered structure. This is not persuasive, since the recitation of a film which is limited to only two layers, and not more or less than two layers, is not disclosed in the specification and therefore the criticality as to having only two layers is not disclosed by applicant. Applicant argues that the invention as recited in amended claims 23 and 32 requires only two layers to yield a polymeric film having increased cut resistance. However, in the absence of the disclosure of any criticality as to only two layers, it appears that the invention would perform equally well with more or less than two layers. In fact, applicant's specification discloses that the invention may comprise a single layer, or may comprise three layers. It would be an obvious modification of Eichhorn to simply omit one of the outer layers, and the resulting two layered structure of Eichhorn would have "increased cut resistance" to the same extent as applicant's two layered structure, to the extent such a structure is disclosed in applicant's specification.

***Allowable Subject Matter***

9. Claim 1-15, 35 and 36 are allowed.

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10. Claims 16-22 and 37-38 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, first paragraph, set forth in this Office action.

11. Claims 28 and 29 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, first paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the references cited, which disclose polymeric layers reinforced with chopped and/or glass fibers, as is well known in the art.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy B. Vanatta whose telephone number is 571-272-4995. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Welch can be reached on 571-272-4996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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/Amy B Vanatta/  
Primary Examiner  
Art Unit 3765